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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,474	03/04/2002	Robert Carl Towns	08513.7021-01-000	5404

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EXAMINER

ROBERTSON, JEFFREY

ART UNIT

PAPER NUMBER

1712

DATE MAILED: 03/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/090,474

Applicant(s)

TOWNS ET AL.

Examiner

Jeffrey B. Robertson

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-37 is/are rejected.
- 7) ☒ Claim(s) 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/518,991.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 26 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 21 and 22 require the presence of a tetralkylammonium entity. However, in claim 26, applicant sets forth alkylammonium hydroxides as part of the Markush group. This fails to further limit claim 26 since there is no tetralkylammonium group required in the recitation of alkylammonium hydroxides.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 21-37 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. For claims 21 and 22, the specification does not support the recitations of "aromatic monomers having at least one boron-derivative functional group" and "aromatic monomer having at least one reactive halide functional group". The specification requires that the boron-derivative

Art Unit: 1712

aromatic monomers and the reactive halide monomers contain at least two boron derivative functional groups or at least two reactive halide functional groups respectively. The specification also supports monomers that have both a boron derivative group and a reactive halide functional group. See page 3, second full paragraph, and the paragraph bridging pages 5 and 6. The examiner is unable to find support for monomers having only one reactive group in a monomer.

4. Claims 21-37 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for boron-derivative aromatic monomers and the reactive halide monomers contain at least two boron derivative functional groups or at least two reactive halide functional groups and monomers that have both a boron derivative group and a reactive halide functional group, does not reasonably provide enablement for "aromatic monomers having at least one boron-derivative functional group" or an "aromatic monomer having at least one reactive halide functional group". The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. The specification enables boron-derivative aromatic monomers and the reactive halide monomers contain at least two boron derivative functional groups or at least two reactive halide functional groups respectively. The specification also enables monomers that have both a boron derivative group and a reactive halide functional group. See page 3, second full paragraph, and the paragraph bridging pages 5 and 6. The specification does not provide direction for one of ordinary

skill in the art to use "aromatic monomers having at least one boron-derivative functional group" or an "aromatic monomer having at least one reactive halide functional group".

Conclusion

5. Since this application contains the addition of new subject matter that appears not be supported by the parent application, the examiner suggests that this application be made a continuation-in-part of the parent application 09/518,991.

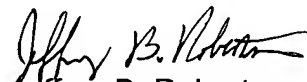
6. The closest prior art is Inbasekaran et al. (U.S. Patent No. 5,777,070), Kim (U.S. Patent No. 4,857,630), Hsieh (U.S. Patent No. 5,753,757), and Woo et al. (U.S. Patent No. 6,169,163) cited by applicants on form PTO-1449, and Yamada et al. (U.S. Patent No. 6,002,044). All of these references are similar to applicants' process, except that an inorganic base such as alkali metal carbonates is used instead of an tetraalkylammonium base. Applicants have shown that the use of an inorganic base results in polymers with inferior properties such as poor reproducibility, foaming, and the need for additional purification steps when compared to the organic bases of the present application in their examples. The cited prior art does not teach or suggest the use of an organic base in the polymerization reactions. Katoh et al. (U.S. Patent No. 6,140,537) and Marcuccio et al. (U.S. Patent No. 6,399,779) are cited for general interest.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey B. Robertson whose telephone number is (703) 306-5929. The examiner can normally be reached on Mon-Fri 7:00-3:00.

Art Unit: 1712

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Dawson can be reached on (703) 308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Jeffrey B. Robertson
Examiner
Art Unit 1712

JBR
March 21, 2003